The original purpose of reading one voice packet PI during ten milliseconds (i.e., during 1 decoding unit time) is to match the operation speed (decoding speed) of the voice decoder 17 for generating the voice output to which a user listens. The buffer memory 32 has performance characteristics of much greater reading speeds than this (for example, reading can be performed by the order of 100 nanoseconds even if a slow-speed CMOS, for example, is used as the buffer memory 32). Therefore, such a scanning signal SC can be fully realized.

When the voice packet PI that constitutes the queue is read from the buffer memory 32 as a voice packet PO, the queue is processed, and the queue length is shortened proportionately with the read voice packet PI. However, the queue is not processed even if the scanning reader 31 reads it as a scanning signal SC, and, accordingly, the queue length does not differ before and after this reading.

Since the higher threshold TH is situated between the 100th packet and the 99th packet in this embodiment, the number of voice packets to be read by the scanning reader 31 exceeds one hundred packets. However, a limit can be imposed on this number if necessary.

As an example, only 30 packets from the top (in the example of Fig. 2, from the voice packet P102 to the voice packet P73) can be read so as to serve as the scanning signal SC.

In Fig. 2, the position where the voice packet PI is

written onto the buffer memory 32 is different from the position where the voice packet PI is read, and it looks as if the figure shows a dual port memory. However, this figure does not specify such a hardware structure.

Any type of hardware structure is allowable if the buffer memory 32 can function as a FIFO memory. For example, adjacent regions in Fig. 2 (e.g., a region where the voice packet P1 is stored and a region where the voice packet P2 is stored) are not necessarily needed to be physically adjacent to an actual buffer memory (32). The reason is that, generally, the queue is logically realized by the use of a list structure.

Additionally, processing is not needed to be applied to the buffer memory 32 after the scanning signal SC is read because the contents of data remain in the buffer memory 32 even if the voice packet PI is merely read. When a description from this viewpoint is given of the processing for reading the voice packet PI that constitutes the queue as the voice packet PO, the following can be said. The data about the voice packet PI that has been read remains in the buffer memory 32 as a result of merely reading the voice packet PI, as described above, but, after it is read as the voice packet PO, a region on the buffer memory 32 where the read voice packet PI has been stored reaches a state of being able to be occupied by voice packets PI that are to be written later (i.e., writable state).

In order to reduce the possibility of occurrence of the aforementioned exhaustion in the thus constructed buffer device 16, the longer the queue is, the better. However, if the queue is too long, the transmission delay becomes substantially long, and this will increase the possibility that, for example, the response, which is brought by the voice packet PI from the voice communications device 11, to the contents of voices in a bidirectional conversation might be unnaturally delayed. For this reason, the buffer device 16 controls the buffer memory 32 so as to always maintain a fixed amount of packets (i.e., a queue with a fixed length) in cooperation with both the complementary-packet inserting device 19 and the packet deleting device 20.

On the other hand, the packet deleting device 20 of Fig. 1, which receives a control signal C4 from the queue length detector 30 and receives a scanning signal SC from the scanning reader 31, supplies the scanning signal SC to the voice presence/absence judging device 21, thereafter receives a judgment result DC, thereafter determines a voice packet to be deleted on the queue on the basis of the judgment result DC, and outputs a control signal C5 according to the determination.

In greater detail, the packet deleting device 20 inquires of the voice presence/absence judging device 21 about each packet of the buffer memory 32 when the voice packets PI kept in the buffer memory 32 exceed the higher